

REMARKS

Claims 1-61 were pending in the application. The non-final office action, dated March 16, 2010, rejects all claims.

This paper amends claims 1, 2, 4, 6, 9, 11, 13, 16, 18-20, 22, 24, 26, 38, 42, 44, and 45, and cancels claims 25, 37, and 48. The amendments to the dependent claims are made for clarification and for correcting antecedent basis; they are not made in response to any particular rejection set forth in the Office Action. The amendments to independent claims 1, 18, and 38 are made to more clearly recite Applicants' invention.

Applicants are not conceding that the subject matter encompassed by claims 1-61 prior to this Amendment is not patentable over the art cited by the Examiner. Claims 1, 2, 4, 6, 9, 11, 13, 16, 18-20, 22, 24, 26, 38, 42, 44, and 45 were amended and claims 25, 37, and 48 were canceled in this Amendment solely to facilitate expeditious prosecution of the application. Applicants respectfully reserve the right to pursue claims, including the subject matter encompassed by claims 1-61 as presented prior to this Amendment, as well as additional claims, in one or more continuing applications.

Claims 1-24, 26-36, 38-47, and 49-61 are now pending in the application.

Rejection of Claims Under 35 U.S.C. 102(b)

Claims 1-9, 11-13, 15, 18-27, 32-35, 37-49, 54-56, and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Paul et al. (U.S. Patent No. 5,320,139 – hereinafter “Paul”). Applicants respectfully traverse the rejection because the cited reference does not teach or suggest all the limitations recited in these claims.

Applicants' invention as recited in claim 1 as now set forth in relevant part includes a pin valve assembly comprising a fluid plate with a fluid channel for fluidically communicating with a valve pin. The pin valve assembly further comprises a pin valve seat that impinges the fluid channel. The valve pin is seated in the pin valve seat to substantially block the flow of fluid through the fluid channel in the fluid plate.

Paul teaches a fluid delivery system that utilizes a solenoid valve 80 including a diaphragm 86 that controls the flow of fluid through a plurality of passages 99, 100 in a plate 111. An armature 89 of the solenoid valve 80 controls the positioning of the diaphragm 86 so that when the diaphragm 86 is closed, i.e., pressed against the plate 111, fluid is prevented from flowing through the passages 99, 100. Conversely, when the diaphragm 86 is opened, i.e., fluid can flow between the passages 99, 100. (See, e.g., FIG. 3 and col. 6, lines 16-44)

The Office Action refers to an armature 89 of the solenoid valve 80 as being a valve pin. Although the armature 89 can control the position of the diaphragm 86, the armature 89 does not function as a valve pin. In particular, the armature 89 does not move into a seat or retract from a seat to block or unblock a path or channel in a manner similar to a valve pin. Instead, the armature 89 applies pressure to the diaphragm 86 which in turn seals the openings of passages 99, 100 to block fluid from flowing between the passages 99, 100. The armature 89 should therefore not be construed to be Applicants' recited valve pin.

The Office Action further refers to an upper surface of the plate 111 of Paul as being a pin valve seat. Even if the armature 89 is somehow construed to be equivalent to Applicants' recited valve pin, there is no feature in the upper surface of the plate 111 to directly receive the armature 89. As discussed above, the armature 89 instead pushed on the diaphragm 86. Thus, it follows that Paul also

fails to teach or suggest “a pin valve seat aligned to receive the valve pin” as recited in claim 1.

Paul discloses that the armature 89 is positioned on the diaphragm 86 to apply pressure to the diaphragm 86, which in turn is pressed against the plate 111 to prevent the flow of fluid through a passage 100. However, while the armature 89 of Paul can be positioned on the diaphragm 86, the armature 89 is not seated in a pin valve seat.

For at least these reasons, Applicants submit that Paul does not teach or suggest the limitations identified above in amended independent claim 1. Applicants therefore respectfully request withdrawal of the rejection of independent claim 1.

Independent claims 18, 38, and 58 as amended above recite claim language similar to that of independent claim 1 and therefore, are patentable for at least those reasons provided in connection with claim 1. Dependent claims 2-9, 11-13, 15, 19-27, 32-35, 37, 39-49, and 54-56 depend directly or indirectly from one of the independent claims, and are patentable for at least those reasons presented above in connection with the particular independent claim from which each depends. Applicants therefore respectfully request that the rejection against these claims also be withdrawn.

Rejection of Claims Under 35 U.S.C. 103(a)

The Office Action rejects claim 10 under 35 U.S.C. § 103 as being unpatentable over Paul in view of Cooper et al. (U.S. Patent No. 5,713,333 – hereinafter “Cooper”). Applicants respectfully traverse the rejection because claim 10 depends from allowable independent claim 1, and is patentable for at least that reason.

The Office Action rejects claims 14, 16, 17, 36, 57, and 59-61 under 35 U.S.C. § 103 as being unpatentable over Paul in view of Hauck (U.S. Patent No. 6,012,487). Applicants respectfully traverse the rejection because claims 14, 16, 17, 36, 57, and 59-61 depend from allowable independent claims 1, 18, 38, and 58, respectively, and are patentable for at least that reason.

The Office Action rejects claims 28-31 and 50-53 under 35 U.S.C. § 103 as being unpatentable over Paul in view of Wylie et al (U.S. Patent No. 5,950,674 – hereinafter “Wylie”) and Achener et al. (U.S. Patent No. 4,045,343 – hereinafter “Achenner”).

Applicants note that Wylie is not cited in either the Notice of References Cited form PTO-892 provided with the current Office Action or the Information Disclosure Statements filed July 28, 2006 and August 29, 2008. Applicants respectfully request that Wylie be cited in form PTO-892 and initialed by the Examiner.

Notwithstanding the foregoing, Applicants respectfully traverse the rejection because claims 28-31 and 50-53 depend from allowable independent claims 18 and 38, respectively, and are patentable for at least that reason.

CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims that have not been expressed.

In view of the remarks made herein, Applicants submit that the application is in condition for allowance and request early favorable action by the Examiner.

If the Examiner believes that a telephone conversation with the Applicants' representative would expedite allowance of this application, the Examiner is cordially invited to call the undersigned at (508) 303-2003.

Respectfully submitted,

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